UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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DENVER, COLORADO 80202-2466

8EPR-EP

OCT 2 1998

Tere O'Rourke
District Ranger
Dillon Ranger District
P.O. Box 620
Silverthorne, Colorado 80498

RE: Arapahoe Basin Master Development Plan
Draft Environmental Impact Statement

Dear Ms. O'Rourke:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4321, et. seq., and Section 309 of the Clean Air Act, the Region VIII office of the Environmental Protection Agency (EPA) has reviewed relevant portions of the referenced Draft Environmental Impact Statement (DEIS) for compliance with the National Environmental Policy Act and several relevant Sections of the Clean Water Act (CWA).

We appreciate the effort made by the Forest Service staff to minimize impacts from the proposed project by identifying design alternatives for water withdrawal and wetland impacts. We understand significant effort has been made to address resource issues and we will continue to work with your staff towards compliance with the applicable environmental regulations.

Based on our review of the proposed master development plan for Arapahoe Basin, we have significant concerns regarding water quality and quantity, resulting from proposed snowmaking, that would reduce flows in the North Fork of the Snake River and result in increasing heavy metal concentrations in the Snake River (a CWA 303(d) listed river) by reducing dilution flows. We are concerned that these impacts be fully evaluated and mitigation plans be developed, coordinated, and finalized in the Final EIS.

Another significant issue raised by this proposal is the unusual precedent of summer skiing in the highly competitive recreation market in Colorado. Inasmuch as this is the first project of its kind in the arid West, indirect environmental impacts associated with this project and increased water diversions that are likely to occur, should be thoroughly discussed in the Final EIS.

Other ski areas in Colorado with the potential for summer skiing should be discussed and their associated potential adverse environmental impacts disclosed. In view of the intense marketing competition among ski areas and their history of developing multiple recreation opportunities, we believe these impacts are reasonably foreseeable and should also be discussed in the impact analysis.

We are providing specific comments on the DEIS (see enclosure) and have previously coordinated with your office on a majority of the issues presented. Region VIII is rating the document as an EO (2) (Environmental Objections, Insufficient Information) due to the significant issues identified here and earlier by my staff. Specifically, we are concerned that the proposed snowmaking project sets a precedent for future actions that collectively could result in significant environmental impacts. We appreciate the opportunity to review the document and will continue to work with the Forest Service to address NEPA and CWA compliance issues with the proposed project.

If you have any questions or concerns regarding these comments or recommendations, please contact Sarah Fowler (303) 312-6192 or Phil Strobel at (303) 312-6704.

Sincerely,

Cindy Cody
Chief, NEPA Unit
Ecosystems Protection Program

Enclosure

cc: Mike Claffey, COE Grand Junction
Sue Moyer, USFWS Grand Junction
Elaine Suriano, USEPA, Office of Federal Activities
Deanne Zwight, USFS, Lakewood
John Toolen, CDOW Grand Junction
Steve Hill, Summit County Planning

Specific Comments
Arapahoe Basin MDP EIS

Alternatives

Section 3.4.3 Hydrology: Because the pre-project flow regime on the North Fork is represented graphically (Figure 3-6) and the projected post-project flow regime is represented in tables (3.7 and 3.8), it is difficult to assess the extent of change to the flow regime that would result from the various alternatives in the proposed activity. It would be very helpful to include a tabular representation of the pre-project monthly minimum, mean and maximum flows at both A-Basin and below Porcupine Gulch to better facilitate this comparison.

Bypass Flows: EPA feels very strongly that maintenance of the negotiated, ecologically-based minimum flow standards is critical to effectively protecting the ecological integrity of the North Fork. We specifically do not support any modification to the Forest Plan reducing minimum flow criteria on the North Fork.

The FEIS should include either more specific discharge monitoring and water withdrawal management plans or design options that would assure that the agreed upon minimum flow criteria will consistently be met in the North Fork.

Alternative D includes specific assurance of a 2 cfs bypass flow below Porcupine Gulch. Given the ecological basis for selecting the 2 cfs level, EPA recommends the same minimum flow assurance be included in all action alternatives.

Alternative E complies with the Forest Plan for maintaining greater than 1 cfs at the A-Basin diversion through the month of October. All alternatives should specifically comply with this Forest Plan standard for protection of fisheries.

EPA prefers the use of either the single diversion below Porcupine Gulch (as in Alternative D) or two diversion points (as in Alternative E) in order to allow sufficient stream discharge to minimize impacts on the critical fishery habitat between A-Basin and Porcupine Gulch.

The EPA strongly supports the monitoring program as proposed in Alternative E "to ascertain that bypass flow is sufficient to meet Forest Plan standards for management of fisheries." It appears that all of the action alternatives will significantly alter the flow regime on the North Fork, a self-sustaining trout fishery; therefore, this monitoring program should be specifically included in all action alternatives.

The Final EIS should pursue adaptive management in order to ensure that impacts to the North Fork ecosystem are minimized. The FEIS should specify the proponent's course of action should the monitoring indicate that changes in flow regime or water quality are having a significant impact beyond those predicted in this DEIS.

Environmental Consequences

4.4.4 Water Quality: The DEIS includes extensive analysis of the expected impacts to water quality downstream of the project. However, the ecological effects of reduced water quality are not assessed. The FEIS must include an analysis of the impacts to beneficial uses on the North Fork, the Snake River, and on Dillon Reservoir.

The CWA does not allow a new project to further degrade a waterbody that is not meeting State water quality standards (see TMDL discussion), and the proposed project would clearly further degrade a portion of the Snake River, a water quality limited stream. Mitigation must therefore be included in the project to negate these effects.

EPA supports mitigation options that would prevent degradation of Snake River water quality, such as utilization of a water source from outside the basin to augment flows and negate the impacts of reduced dilution flows from the North Fork, provided this action does not cause other adverse impacts. EPA would also support direct mitigation (treatment) of the primary source of pollution to the Snake River to compensate for reduced dilution flows.

Analysis of Phosphorus Load
In order to protect the drinking water source at Dillon Reservoir, the waste load allocation for the Snake River drainage allows A-Basin 11.4 pounds of phosphorus load to the watershed per year. The DEIS does not disclose A-Basin's current phosphorus load from waste water treatment operations or from non-point sources. The FEIS should include the phosphorus loading from the current operation, and include the projected load from both the increased waste water treatment and the non-point load associated with construction and operation of this project. Further, the protection agreement for Dillon Reservoir requires that any increase in non-point pollution be mitigated on a 1-to-1 basis.

4.4.4.2 Snow Additives: The DEIS states that "A-Basin does not anticipate using fertilizers to maintain the racecourses." In order to ensure protection of the water quality in Dillon Reservoir, we would like to see the words "does not anticipate" changed to "will not be."

4.4.4.2 Snow Additives: The DEIS indicates "limited quantities of rock salt" may be used in snow making. We understand that the term "rock salt" refers to sodium chloride (NaCl). The FEIS should specify the type of salt that would be applied. In order to fully assess the potential for impact from this activity, the FEIS should project the *amount* of salt and the *time period* in which it is currently applied and is likely to be applied in each alternative. We would assume that, because part of the purpose of this project involves extending the ski season through the warm-weather months, the amount of salt used to maintain the ski runs would increase significantly over current application rates.

There is no basis listed in the DEIS for the assumption that "natural adsorption mechanisms in the soil" would mitigate the effects of these salts on the ecosystem. In the short term, the system may assimilate the salts with little effect; but there is concern that the salts could build up over time in the fragile alpine soils and wetlands, and further concern that plant and animal communities may

therefore be impacted. We strongly recommend that long-term vegetation monitoring and water quality monitoring of on-site wetlands be included to understand these impacts.

4.4.4.3 Water Quality Cumulative Impacts: The first paragraph indicates that "...the potential use of additives for snow making and/or snow preservation could result in water quality impacts" and further, "BMPs, however, are currently in place, and are being recommended for future maintenance of water quality in the basin." The DEIS does not appear to include any specific BMPs that would mitigate potential impacts of salt application.

4.9 Aquatic Resources: Section 4.9.1 states that "0.15 inches of water over the redd is sufficient to preserve the eggs." Conversations with Forest Service staff indicate that this is a typographic mistake, and the above figure should have been listed as "0.15 feet."

By limiting the scope of the habitat degradation criteria to "water depth over spawning redds," the DEIS may be underestimating the loss of habitat from the decreased discharge during snow-making months. Water temperature, available pool habitat, and food production can also be limiting factors in trout survival, growth rate, reproductive success and egg survival. All of these habitat factors will likely be reduced by decreasing the mean discharge during the seven month snow-making period. Because the reduced flows associated with the project may effectively decrease winter water temperatures, and an extended snow-melt season will likely reduce summer water temperatures for North Fork fish and their eggs, we therefore recommend that temperature monitoring be included in the water monitoring program proposed for this project.

Section 4.9.1 last paragraph, when referring to the White River N.F. standard for management of fisheries on the forest, indicates that the reference point for habitat potential should be the "existing condition." EPA believes the reference point for potential habitat should be set as early as the effects of human development (mining, water diversion, etc.) of the watershed can be realistically assessed. Setting the baseline at "current conditions" could set a dangerous precedent as future projects in the watershed may also attempt to define the reference condition as the "existing condition," which has theoretically already been degraded by 30 percent by the A-Basin snow making operation. This implies that each subsequent project can further degrade the fishery habitat by 30 percent, an obviously unacceptable situation that would violate the goals of the CWA Section 101(a). Fortunately, in this case there may be little difference between the existing condition and the redevelopment condition, as there has been little development in the North Fork watershed with the exception of the minor water diversion that A-Basin uses for domestic water, and the impact from constructing and maintaining State Highway 6.

4.9.2.2 The second paragraph in this section indicates that "a Forest Plan amendment or the mitigation measures suggested below would be required" to implement Phase I of Alternative B. We were unable to locate in the document any reference to specific mitigation measures that would reduce the effects, nor does the document include a proposed amendment to the Forest Plan.

TMDL/Water Quality Concerns

Section 303(d) of the Clean Water Act directs the State of Colorado to identify waters needing additional controls beyond baseline (technology) requirements to meet water quality standards (WQSs). The State is required to submit a list of water quality-limited waters to EPA for which Total maximum Daily Loads (TMDLs) have yet to be developed. The State is then required to establish TMDLs on these State waters. Colorado has developed a list of impaired and threatened waterbodies, as required by Section 303, EPA regulations and guidance documents. The White River National Forest has determined that the Snake River and Peru Creek are found on the 1998 Colorado list of impaired waters. The Forest Service has also stated that the proposed and preferred alternatives do have the potential to increase the total number and intensity of WQSs exceedances. The Forest Service has recognized that these streams currently exceed WQSs and do not have reserve capacity for additional impacts. The Forest Service should be prepared to assist the State in meeting its obligations under the Clean Water Act and should be prepared to meet its federal obligations under CWA Sections 313 and 319.

> **SECTION 313** - Requires Federal Agencies engaged in any activity resulting, or which may result, in the discharge or runoff of pollutants to comply with all Federal, State and local water pollution control requirements, whether substantive or procedural.
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> **SECTION 319** - Authorizes the States to prepare State Nonpoint Source Pollution Assessment Reports and develop State Nonpoint Source Pollution Management Programs. This section also requires **that Federal programs that could have an effect on the purposes and objectives of the State's nonpoint source pollution management program be consistent with it.**

There is a need to integrate and coordinate forest wide standards and guidelines with State efforts to assess and maintain water quality and develop TMDLs. The Clean Water Act clearly gives the State authority to determine the uses and WQSs for the waters of Colorado. The current Forest Service standards and guidelines allowing for 30% impact does not appear to be in accordance with the goals of the CWA. We encourage coordination with Colorado TMDL and WQSs efforts by contacting Sarah Johnson at (303)692-3609.

Region VIII of EPA would like to keep the option open for A-Basin to mitigate the metals by "treating" the Peru Mine area wastes. We recognize that there are serious CERCLA liability potentials; but the good Samaritan option has been used successfully in other areas without the good Samaritan being obligated financially forever. Accordingly, the Forest Service should not avoid difficult solutions, as they have been successfully implemented at other sites with environmental benefits outweighing other risks.

Further, the TMDL process identifies the maximum load of a pollutant (e.g., sediment, nutrient, metals) a waterbody can assimilate and fully support its designated uses; allocates portions of the maximum load to all sources; identifies the necessary controls that may be implemented voluntarily or through regulatory means; a margin of safety (a monitoring plan and associated corrective feedback loop to insure that uses are fully supported), and seasonality, if

necessary. Generally, in situations such as nonpoint source activities, the solution will require Best Management Practices (BMPs) or Adaptive Management Techniques (AMTs) to reduce the loading or WQS exceedances, it may or may not require adjustment for seasonal impacts, and the margin of safety is defined in terms of a monitoring program, including a feedback system to determine if the BMP/AMT are effectively reducing the impact. EPA would like to request that all monitoring data preformed under this NEPA document, and any subsequent or tiered documents, be uploaded to a national water quality database such as the new STORET. If you need assistance or further information, please contact the Region VIII water quality data base administrator, Marty McComb, at (303)312-6963.

EPA Region VIII has begun to develop a draft procedure for federal participation in watershed TMDL activities. We suggest that, if known or possible to develop, the following elements be included in the forest-wide standards and guidelines. TMDLS can be included in all documents where an activity may impact water quality, such as water quality planning documents (including NEPA documents), master development plans, resource management plans, watershed management plans, and habitat conservation plans.

I. Summary:
Description of the waterbody, impairments, stakeholders, statement of intent to submit to the State.

II. Problem Characterization:
- Waterbody Description
  - Maps, Specific waters to be addressed, rationale for scale of TMDL
- Pollutant(s) of Concern
- Use Impairments or Use threats
- Probable Sources

III. TMDL Endpoint:
- Description of Endpoints
- Endpoint links to State Water Quality Standards

IV. TMDL Analysis and Development:
- Data Sources
- Analysis techniques or models
- Geographic Location of TMDL
- Margin of Safety (monitoring effort)

V. Allocation of TMDL Loads or Responsibilities:
- Load Allocation
- Allocation of Responsibility

VI. Schedule of Implementation

VII. Post-Implementation Monitoring:
- Description of Proposed Monitoring

VIII. Public Participation:
- Summary of Public Review

Wetlands and Wetland Mitigation

The proposed project will adversely impact less than an acre of montane wetlands, resulting predominantly from snowfield development. Mitigation for direct and indirect impacts are proposed on-mountain using melt water from the snowfield and expansion of existing wet meadow wetlands. We recommend that the Forest Service review current snow disposal methods from existing parking lots, evaluate the potential impacts from these practices, and consider less damaging alternatives for snow management. It has been our experience at other resorts that parking lot snow is scraped into adjacent wetlands or waters of the U.S. bringing sediment, trash and other pollutants into the aquatic ecosystems. These practices typically result in continued filling of wetlands and long-term adverse impacts to the aquatic ecosystems. We believe that the Forest Service should require sound snow management activities to protect and restore water quality on their lands. Accordingly, better storm water management should be considered, including paving of existing parking lots with designed stormwater treatment systems to handle sediment and other pollutants.

Further, we are concerned that the wetland mitigation not include the introduction of snow melt water into existing wet meadow wetlands, since salts will be used extensively on the snow field and will likely be carried into the mitigation wetlands with a potential of a negative effect on the plant community. We believe that the Forest Service should require monitoring of salt levels within the mitigation wetlands to evaluate and adjust for negative effects should they be manifested in the plant community of the mitigation area.